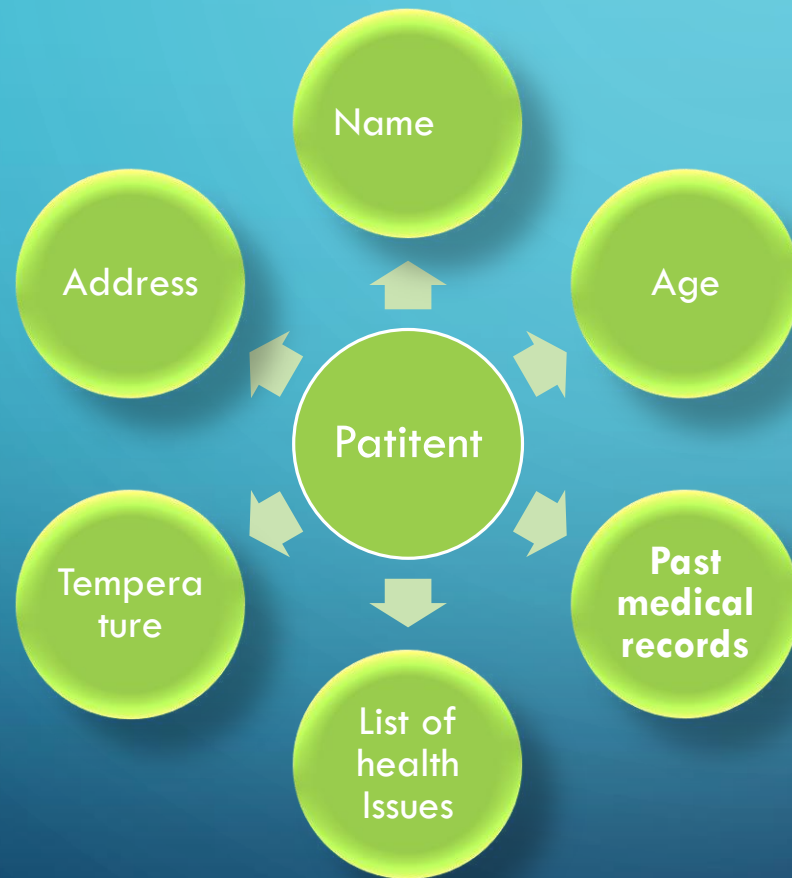


A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a tree structure.

# STRUCTURES IN C

GIRISH S KUMAR

# DATA DOES NOT COME ALWAYS AS NUMBER AND TEXT



IT is difficult to use Arrays or regular variables. Though we can use arrays, it make the program looks very complex and difficult to manage.

# USER DEFINED TYPES

int

float

char

double

User  
Define  
Type

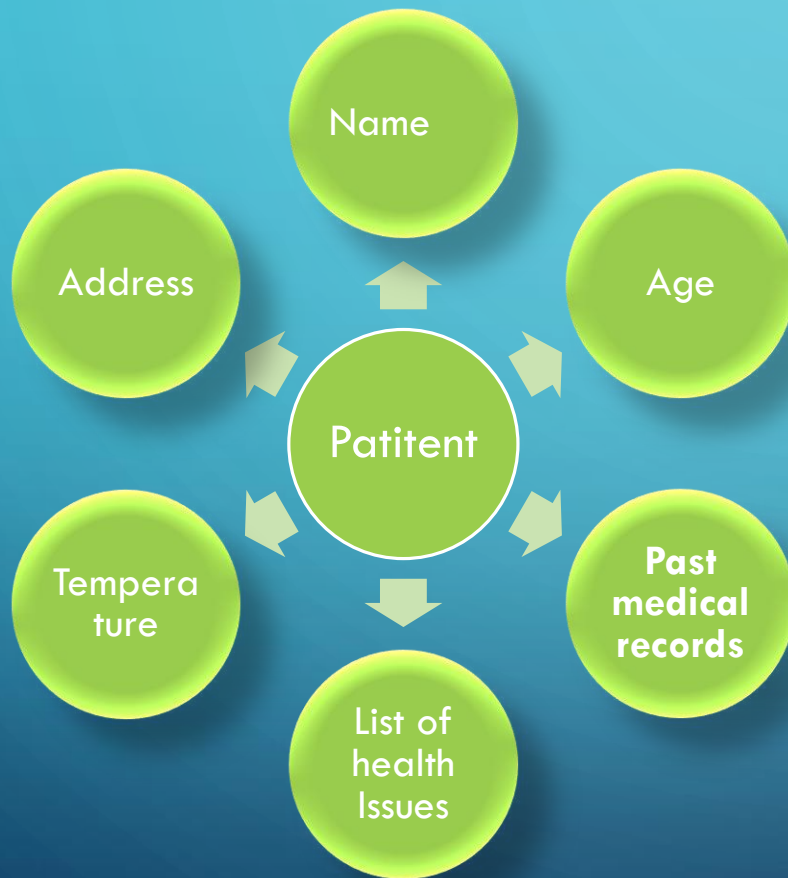
## • HOW DO WE DEFINE USER DEFINED TYPES

- User Defined Types are create using the same basic data types in C like int, float, char, double etc
- **typedef** *number* int  
**typedef** is the keyword used for creating a new user defined data type

The background is a blue gradient with decorative white circuit-like lines in the corners. These lines consist of straight segments and small circles, resembling a stylized electronic circuit board.

# EXAMPLES OF USING TYPEDEF

# HOW TO DECLARE A USER DEFINED TYPE FOR HOLDING PATIENT DATA



```
struct patient
{
    char name[115];
    int age ;
    char address[50];
    char listofHealthIssues[100];
    char pastMedicalRecordID ;
    int temperature
} MyPatient ;
```

# HOW TO ACCESS THE STRUCTURE

```
scanf("%s", Mypatient.name);  
scanf("%d", Mypatient.age);  
.....  
.....  
printf("Name of the patient is %s \n", Mypatient.name);
```

# STRUCT CAN DECLARED AS USER DEFINED DATA TYPE

```
typedef struct patient
{
    char name[115];
    int age ;
    char address[50];
    char listofHealthIssues[100];
    char pastMedicalRecordID ;
    int temperature
} PATIENT_TYPE ;
```



```
typedef struct patient
```

```
{
```

```
    char name[115];
```

```
    int  age ;
```

```
    char  address[50];
```

```
    char  listofHealthIssues[100];
```

```
    char  pastMedicalRecordID ;
```

```
    int    temperature
```

```
} PATIENT_TYPE ;
```

```
Main()
```

```
{
```

```
    int idx ;
```

```
    char  operatorName[25];
```

```
    PATIENT_TYPE  outpatient, inpatient ;
```

```
    scanf("%s", outpatient.name);
```

```
}
```

## • HANDS ON WITH STRUCTURE

1. ARRAY STRUCTURES
2. SEARCHING IN AN ARRAY OF STRUCTURES
3. SORTING AN ARRAY OF STRUCTURES
4. READING DATA FROM FILE TO POPULATE STRUCTURE
5. DEFINE A STRUCTURE TO HOLD

WIND SPEED AND DIRECTION

- AIR TEMPERATURE
- AIR PRESSURE
- AIR HUMIDITY
- PRECIPITATION
- HAZE AND CONTENTS OF THE AIR
- SOLAR AND TERRESTRIAL RADIATION
- RAINFALL

COLLECTED FROM A SET OF SENSORS AT A METEOROLOGICAL CENTRE  
OVER FEW YEARS. DATA STORED IN .CSV FILE.

WRITE A PROGRAM TO FIND THE HUMIDITY, TEMPERATURE OF THOSE  
DAYS IT RAINED, PRINT AS A TABLE IN HTML